

U.S. DEPARTMENT OF COMMERCE, PATENT AND TRADEMARK OFFICE		DATE: December 6, 2001
TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371		U.S. APPLICATION NO. (known): 097/926720
INTERNATIONAL APPLICATION NO.: PCT/JP00/01538	INTERNATIONAL FILING DATE: MARCH 14, 2000	PRIORITY DATE CLAIMED: JUNE 8, 1999
TITLE OF INVENTION: COMPUTER APPARATUS WITH SOFTWARE EXECUTION JUDGING FUNCTION, SOFTWARE EXECUTION CONTROL METHOD, SOFTWARE EXECUTION JUDGING DEVICE, AND COMPUTER PROGRAM PRODUCT		
APPLICANT(S) FOR DO/EO/US: Kenji SATO		

Applicant hereby submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

- ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
- ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
- ☒ This express request to begin national examination procedures (35 USC 371(f)) at any time rather than delay examination until the expiration of the time limit set in 35 USC 371(b) and PCT Articles 22 and 39(1).
- ☒ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
- ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2)):
 - ☐ is transmitted herewith (required only if not transmitted by the International Bureau).
 - ☒ has been transmitted by the International Bureau.
 - ☐ is not required, as the application was filed in the United States Receiving Office (RO/US)
- ☒ A translation of the International Application into English (35 U.S.C. 371(c)(2)).
- ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
 - ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
 - ☐ have been transmitted by the International Bureau.
 - ☐ have not been made; however, the time limit for making such amendments has NOT expired.
 - ☒ have not been made and will not be made.
- ☐ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
- ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
- ☒ A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

ITEMS 11. TO 16. BELOW CONCERN OTHER DOCUMENT(S) OR INFORMATION INCLUDED:

- ☒ An Information Disclosure Statement under 37 CFR 1.97 and 1.98 with 8 references.
- ☒ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
ASSIGNEE NAME AND ADDRESS: **INTERLEX INC., Tokyo, Japan**
Please publish the assignee data with the application.
- ☒ A **FIRST** preliminary amendment.
☐ A **SECOND** or **SUBSEQUENT** preliminary amendment
- ☐ A substitute specification.
- ☐ A change of power of attorney and/or address letter.
- ☒ Other items or information: 5 sheets of drawings.

U.S. APPLICATION NO. (if known) 09/926720	INTERNATIONAL APPLICATION NO. PCT/JP00/01538	DATE: December 6, 2001	
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17. <u>X</u> The following fees are submitted: Basic National Fee (37 CFR 1.492(a)(1)-(5): Search Report has been prepared by the EPO or JPO: \$890.00 International preliminary examination fee paid to USPTO (37 CFR 1.482) \$710.00 No international preliminary examination fee paid to USPTO (37 CFR 1.482) but international search fee paid to USPTO (37 CFR 1.445(a)(2)) \$740.00 Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO \$1040.00 International preliminary examination fee (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(2)-(4) \$100.00 <div style="text-align: right;">ENTER APPROPRIATE BASIC FEE AMOUNT = \$ 890.00</div>	CALCULATIONS	PTO USE ONLY
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Surcharge of \$130.00 for furnishing the oath or declaration later than __ 20 30 months from the earliest claimed priority date (37 DVR 1.492(e)).		
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CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
TOTAL	21 -20 =	1	X \$ 18.00	\$ 18.00	
INDEPENDENT	12 - 3 =	9	X \$ 84.00	\$ 756.00	
Multiple dependent claims(s) (if applicable)			+ \$280.00		
TOTAL OF ABOVE CALCULATIONS =				\$1,664.00	
Reduction by 1/2 for filing by small entity, if applicable. (Note 37 CFR 1.9, 1.27, 1.28).					
SUBTOTAL =				\$1,664.00	
Processing fee of \$130.00 for furnishing the English translation later than __ 20 30 months from the earliest claimed priority date (37 CFR 1.492(f)).				+	
TOTAL NATIONAL FEE =				\$1,664.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property +				\$ 40.00	
TOTAL FEES ENCLOSED =				\$1,704.00	
				Amount to be:	
				refunded	\$ _____
				charged	\$ _____
					\$ _____

ATTORNEY'S DOCKET NO: 011581

U.S. APPLICATION NO. (if known) 09/926720	INTERNATIONAL APPLICATION NO. PCT/JP00/01538	DATE: December 6, 2001
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a. ☒ A check in the amount of \$1,704.00 to cover the above fees is enclosed. (\$890.00 for basic filing fee; \$18.00 for 1 additional claim; \$756.00 for 9 additional independent claims and \$40.00 for assignment recordation fee). (This paper is filed in triplicate)


b. ☐ Please charge my Deposit Account No. 01-2340 in the amount of \$ to cover the above fees. (A duplicate copy of this sheet is enclosed.)

c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 01-2340.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed to request that the application be restored to pending status.

Send All Correspondence To:


23850
 PATENT TRADEMARK OFFICE


 SIGNATURE
 William G. Kratz, Jr.
 NAME
22,631
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WGK/yap

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PATENT
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: **Kenji SATO**

Serial Number: **Not Yet Assigned**
(PCT/JP00/01538)

Filed: **December 6, 2001**

For: **COMPUTER APPARATUS WITH SOFTWARE EXECUTION JUDGING
FUNCTION, SOFTWARE EXECUTION CONTROL METHOD, SOFTWARE
EXECUTION JUDGING DEVICE AND COMPUTER PROGRAM PRODUCT**

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

December 6, 2001

Sir:

Prior to the calculation of the filing fees of the above application, please amend the application as follows:

IN THE CLAIMS:

Please amend claims 1, 3, 4, 8, 10 and 12 as follows:

1. (Amended) A computer apparatus having a software execution judging function to judge whether or not software may be executed, comprising:

setting memorizing means for memorizing information settings relating to criteria for judging propriety of software execution;

software execution judging means for judging whether or not software may be executed based on said information settings memorized in said setting memorizing means; and

software executing means for executing said software only when said software execution judging means judges that said software may be executed;

wherein said information settings includes an information setting which is changeable by a user and another information setting which is unchangeable by the user.

3. (Amended) The computer apparatus according to claim 1, wherein said information settings include an age-related information setting relating to the age of a user, so that, when the user tries to execute age-restricted software, said software execution judging means judges that said age-restricted software may be executed in a case that the age of the user is not subject to execution restriction based on said age-related information setting;

wherein said age-related information setting is unchangeable by the user.

4. (Amended) The computer apparatus according to claim 1, wherein said information settings include an execution time-related information setting for restricting execution time, so that, when a user tries to execute software, said software execution judging means judges that said software may be executed in a case that the current temporal condition is not subject to execution restriction based on said execution time-related information setting;

wherein said execution time-related information setting is changeable by the user.

8. (Amended) A method for controlling the execution of software in a computer apparatus, comprising the steps of:

accessing information settings which have been previously set and relate to criteria for judging propriety of software execution;

judging whether software may be executed based on said information settings; and

executing said software only when it is judged that the software may be executed;

wherein said information settings includes an information setting which is changeable by a user and another information setting which is unchangeable by the user.

10.(Amended) A software execution criteria device which is removably mounted to or disconnectably communicably connected to a computer apparatus, comprising:

setting memorizing means for memorizing information settings which has been previously set and relate to criteria for judging propriety of software execution by said computer apparatus, and

means for providing said information settings or software execution control based on said information settings to said computer apparatus, when mounted or connected to said computer apparatus;

wherein said information settings includes an information setting which is changeable by a user and another information setting which is unchangeable by the user.

12. (Amended) A computer program product, having a computer program for carrying out a software execution control method in a computer apparatus, said software execution control method comprising the steps of:

accessing information settings which have been previously set and relate to criteria for judging propriety of software execution;

judging whether or not software may be executed based on said information settings; and

executing said software only when it is judged that said software may be executed;

wherein said information settings includes an information setting which is changeable by a user and another information setting which is unchangeable by the user.

Please add the following new claims:

14. A computer apparatus having a software execution judging function to judge whether or not software may be executed, comprising:

setting memorizing means for memorizing information settings relating to criteria for judging propriety of software execution;

software execution judging means for judging whether or not software may be executed based on said information settings memorized in said setting memorizing means; and

software executing means for executing said software only when said software execution judging means judges that said software may be executed;

wherein said information settings includes a changeable information setting which is changeable by a user and a unchangeable information setting which is unchangeable by the user;

wherein said changeable information setting includes an execution time-related information setting for determining a prohibition term during which execution of said software is prohibited;

CLAIMS AMENDED IN IPE ACCORDING TO ARTICLE 34 PCT

1.(amended) A computer apparatus having a software execution judging function to judge whether or not software may be executed, comprising:

setting memorizing means for memorizing information settings relating to criteria for judging propriety of software execution;

software execution judging means for judging whether or not software may be executed based on said information settings memorized in said setting memorizing means; and

software executing means for executing said software only when said software execution judging means judges that said software may be executed;

wherein said information settings includes an information setting which is changeable by a user and another information setting which is unchangeable by the user.

3.(amended) The computer apparatus according to claim 1,
wherein said information settings include an age-related
information setting relating to the age of a user, so that, when
the user tries to execute age-restricted software, said
software execution judging means judges that said age-
restricted software may be executed in a case that the age of
the user is not subject to execution restriction based on said
age-related information setting;

wherein said age-related information setting is
unchangeable by the user.

4.(amended) The computer apparatus according to claim 1,
wherein said information settings include an execution
time-related information setting for restricting execution
time, so that, when a user tries to execute software, said
software execution judging means judges that said software may
be executed in a case that the current temporal condition is
not subject to execution restriction based on said execution
time-related information setting;

wherein said execution time-related information setting is changeable by the user.

8.(amended) A method for controlling the execution of software in a computer apparatus, comprising the steps of:

accessing information settings which have been previously set and relate to criteria for judging propriety of software execution;

judging whether software may be executed based on said information settings; and

executing said software only when it is judged that the software may be executed;

wherein said information settings includes an information setting which is changeable by a user and another information setting which is unchangeable by the user.

10.(amended) A software execution criteria device which is removably mounted to or disconnectably communicably connected to a computer apparatus, comprising:

setting memorizing means for memorizing
information settings which has been previously set and relate
to criteria for judging propriety of software execution by said
computer apparatus, and

means for providing said information settings or
software execution control based on said information settings
to said computer apparatus, when mounted or connected to said
computer apparatus;

wherein said information settings includes an
information setting which is changeable by a user and another
information setting which is unchangeable by the user.

12.(amended) A computer program product, having a
computer program for carrying out a software execution control
method in a computer apparatus, said software execution control
method comprising the steps of:

accessing information settings which have been
previously set and relate to criteria for judging propriety of
software execution;

judging whether or not software may be executed
based on said information settings; and

executing said software only when it is judged that
said software may be executed;

wherein said information settings includes an
information setting which is changeable by a user and another
information setting which is unchangeable by the user.

14.(added) A computer apparatus having a software
execution judging function to judge whether or not software may
be executed, comprising:

setting memorizing means for memorizing
information settings relating to criteria for judging propriety
of software execution;

software execution judging means for judging
whether or not software may be executed based on said
information settings memorized in said setting memorizing
means; and

software executing means for executing said

software only when said software execution judging means judges that said software may be executed;

wherein said information settings includes a changeable information setting which is changeable by a user and a unchangeable information setting which is unchangeable by the user;

wherein said changeable information setting includes an execution time-related information setting for determining a prohibition term during which execution of said software is prohibited;

wherein said software execution judging means judges that said software may be executed only when the current time is out of said prohibition term.

15.(added) A computer apparatus having a software execution judging function to judge whether or not software may be executed, comprising:

setting memorizing means for memorizing information settings relating to criteria for judging propriety

of software execution;

software execution judging means for judging
whether or not software may be executed based on said
information settings memorized in said setting memorizing
means; and

software executing means for executing said
software only when said software execution judging means judges
that said software may be executed;

wherein said information settings includes a
changeable information setting which is changeable by a user
and a unchangeable information setting which is unchangeable
by the user;

wherein said changeable information setting
includes a cumulative execution time setting for determining
a limit of cumulative execution time in a predetermined time
period;

wherein said software execution judging means
judges that said software may be executed only when the

cumulative execution time in the predetermined time is shorter than said limit.

16.(added) A method for controlling the execution of software in a computer apparatus, comprising the steps of:

accessing information settings which have been previously set and relate to criteria for judging propriety of software execution;

judging whether software may be executed based on said information settings; and

executing said software only when it is judged that the software may be executed;

wherein said information settings includes a changeable information setting which is changeable by a user and a unchangeable information setting which is unchangeable by the user;

wherein said changeable information setting includes an execution time-related information setting for

determining a prohibition term during which execution of said software is prohibited;

wherein in said step of judging it is judged that said software may be executed only when the current time is out of said prohibition term.

17.(added) A method for controlling the execution of software in a computer apparatus, comprising the steps of:

accessing information settings which have been previously set and relate to criteria for judging propriety of software execution;

judging whether software may be executed based on said information settings; and

executing said software only when it is judged that the software may be executed;

wherein said information settings includes a changeable information setting which is changeable by a user and a unchangeable information setting which is unchangeable by the user;

wherein said changeable information setting
includes a cumulative execution time setting for determining
a limit of cumulative execution time in a predetermined time
period;

wherein in said step of judging it is judged that
said software may be executed only when the cumulative execution
time in the predetermined time is shorter than said limit.

wherein said software execution judging means judges that said software may be executed only when the current time is out of said prohibition term.

15. A computer apparatus having a software execution judging function to judge whether or not software may be executed, comprising:

setting memorizing means for memorizing information settings relating to criteria for judging propriety of software execution;

software execution judging means for judging whether or not software may be executed based on said information settings memorized in said setting memorizing means; and

software executing means for executing said software only when said software execution judging means judges that said software may be executed;

wherein said information settings includes a changeable information setting which is changeable by a user and a unchangeable information setting which is unchangeable by the user;

wherein said changeable information setting includes a cumulative execution time setting for determining a limit of cumulative execution time in a predetermined time period;

wherein said software execution judging means judges that said software may be executed only when the cumulative execution time in the predetermined time is shorter than said limit.

16. A method for controlling the execution of software in a computer apparatus, comprising the steps of:

accessing information settings which have been previously set and relate to criteria for judging propriety of software execution;

judging whether software may be executed based on said information settings; and

executing said software only when it is judged that the software may be executed;

wherein said information settings includes a changeable information setting which is changeable by a user and a unchangeable information setting which is unchangeable by the user;

wherein said changeable information setting includes an execution time-related information setting for determining a prohibition term during which execution of said software is prohibited;

wherein in said step of judging it is judged that said software may be executed only when the current time is out of said prohibition term.

17. A method for controlling the execution of software in a computer apparatus, comprising the steps of:

accessing information settings which have been previously set and relate to criteria for judging propriety of software execution;

judging whether software may be executed based on said information settings; and

executing said software only when it is judged that the software may be executed;

wherein said information settings includes a changeable information setting which is changeable by a user and a unchangeable information setting which is unchangeable by the user;

wherein said changeable information setting includes a cumulative execution time setting for determining a limit of cumulative execution time in a predetermined time period;

wherein in said step of judging it is judged that said software may be executed only when the cumulative execution time in the predetermined time is shorter than said limit.

18. A computer apparatus having a software execution judging function to judge whether or not software may be executed, comprising:

setting memorizing means for memorizing an information setting relating to a criterion for judging propriety of software execution, said information setting being changeable by a user;

software execution judging means for judging whether or not software may be executed based on said information setting memorized in said setting memorizing means; and

software executing means for executing said software only when said software execution judging means judges that said software may be executed.

19. A method for controlling the execution of software in a computer apparatus, comprising the steps of:

accessing an information setting which relates to a criterion for judging propriety of software execution, said information setting being changeable by a user;

judging whether software may be executed based on said information setting; and

executing said software only when it is judged that the software may be executed.

20. A software execution criteria device which is removably mounted to or disconnectably communicably connected to a computer apparatus, comprising:

setting memorizing means for memorizing an information setting which has been previously set and relates to a criterion for judging propriety of software execution by said computer apparatus, said information setting being changeable by a user; and

means for providing said information setting or software execution control based on said information setting to said computer apparatus, when mounted or connected to said computer apparatus.

21. A computer program product, having a computer program for carrying out a software execution control method in a computer apparatus, said software execution control method comprising the steps of:

accessing an information setting which has been previously set and relates to a criterion for judging propriety of software execution, said information setting being changeable by a user;

judging whether or not software may be executed based on said information setting; and

executing said software only when it is judged that said software may be executed.

REMARKS

The above amendment is submitted to place the claims in substantially the same condition as to the claims which have been amended under Article 34 in the international application and to add four additional claims, claims 18-21. An English translation of the annexes of the PCT international preliminary examination report is enclosed. Early and favorable action is awaited.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

In the event there are any additional fees required, please charge our Deposit Account No. 01-2340.

Respectfully submitted,

ARMSTRONG, WESTERMAN, HATTORI,
McLELAND & NAUGHTON, LLP



William G. Kratz, Jr.
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VERSION WITH MARKINGS TO SHOW CHANGES MADE

Claims 1, 3, 4, 8, 10 and 12 have been amended as follows:

1. (Amended) A computer apparatus having a software execution judging function to judge whether or not software may be executed, comprising:

setting memorizing means for memorizing ~~an~~ information ~~setting~~ settings relating to a ~~criterion~~ criteria for judging propriety of software execution;

software execution judging means for judging whether or not software may be executed based on said information ~~setting~~ settings memorized in said setting memorizing means; and

software executing means for executing said software only when said software execution judging means judges that said software may be executed;

wherein said information settings includes an information setting which is changeable by a user and another information setting which is unchangeable by the user.

3. (Amended) The computer apparatus according to claim 1, wherein said information ~~setting includes~~ settings include an age-related information setting relating to the age of a user, so that, when the user tries to execute age-restricted software, said software execution judging means judges that said age-restricted software may be executed in a case that the age of the user is not subject to execution restriction based on said age-related information setting;

wherein said age-related information setting is unchangeable by the user.

4. (Amended) The computer apparatus according to claim 1, wherein said information ~~setting includes~~ settings include an execution time-related information setting for restricting execution time, so that, when a user tries to execute software, said software execution judging means judges that said software may be executed in a case that the current temporal condition is not subject to execution restriction based on said execution time-related information setting;

wherein said execution time-related information setting is changeable by the user.

8. (Amended) A method for controlling the execution of software in a computer apparatus, comprising the steps of:

accessing ~~an information setting~~ settings which ~~relates to a criterion~~ have been previously set and relate to criteria for judging propriety of software execution;

judging whether software may be executed based on said information ~~setting~~ settings; and
executing said software only when it is judged that the software may be executed;

wherein said information settings includes an information setting which is changeable by a user and another information setting which is unchangeable by the user.

10. (Amended) A software execution criteria device which is removably mounted to or disconnectably communicably connected to a computer apparatus, comprising:

setting memorizing means for memorizing information ~~setting~~ settings which has been previously set and relate to ~~a criterion~~ criteria for judging propriety of software execution by said computer apparatus, and

means for providing said information ~~setting~~ settings or software execution control based on said information ~~setting~~ settings to said computer apparatus, when mounted or connected to said computer apparatus;

wherein said information settings includes an information setting which is changeable by a user and another information setting which is unchangeable by the user.

12. (Amended) A computer program product, having a computer program for carrying out a software execution control method in a computer apparatus, said software execution control method comprising the steps of:

accessing ~~an~~ information ~~setting~~ settings which ~~has~~ have been previously set and relate to a ~~criterion~~ criteria for judging propriety of software execution;

judging whether or not software may be executed based on said information ~~setting~~ settings;
and

executing said software only when it is judged that said software may be executed;

wherein said information settings includes an information setting which is changeable by a user and another information setting which is unchangeable by the user.

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SPECIFICATION

COMPUTER APPARATUS WITH SOFTWARE EXECUTION JUDGING FUNCTION,
SOFTWARE EXECUTION CONTROL METHOD, SOFTWARE EXECUTION
JUDGING DEVICE, AND COMPUTER PROGRAM PRODUCT

TECHNICAL FIELD

The present invention relates to a computer apparatus having a software execution judging function to judge whether or not software may be executed, for example, a preferred computer apparatus, such as a home television game machine, which has a function for judging whether a game software may be executed or not.

BACKGROUND ART

When software is executable on a computer apparatus, the software must conform to the operating conditions of the corresponding hardware. For example, in order to execute game software on a home television game machine (hereinafter referred to as a game machine), the game software must be made to conform to general conditions generally applied to all programs executed on computers, as well as the operating conditions of the hardware of the game machine. Conventionally, game machines have a function for determining whether or not inserted game software is made in conformance with the operating conditions of the game machine from the shape or form of the inserted game software.

Fig. 1 is a flowchart showing the flow of game software execution-determining processing, which a conventional game machine performs. When game software is inserted into a game machine (S1), after an IPL (Initial Program Loader) starts up, the game machine accesses this game software (S2), and makes a determination as to whether or not the inserted game software corresponds to the game machine (S3). If there is correspondence (S3, Y), the execution of this software is carried out (S4), but if there is no correspondence (S3, N), processing, such as execution stop, is performed (S5), and the game software is not started (S6).

However, the judging function as to whether or not to execute game software of conventional game machines is a function for judging whether or not the game software conforms to the operating conditions of the corresponding game machine, but the conventional game machines do not comprise a function for judging whether or not a user may run the game software. That is, the conventional game machines are not able to make a judgment as to whether or not the game is appropriate for the user. Use restrictions of game software for respective users are practiced by human-initiated methods, such as regulation at the time of purchase, and guardian monitoring.

For example, the problem is that, without recourse to the human-initiated methods, it is not possible to restrict, depending on each user, the execution of a game that poses an ethical problem, such as a game that contains sexual, violent, repulsive expressions that prove problematic to the rearing of young people, it is not possible to place restrictions on game execution for an inappropriate user during a time period, such as the middle of the night, and it is not possible to place time restrictions on game execution for a user, who should not be staring at a television screen for a long period of time.

Problems like these are not limited to game machines alone, but rather are the same for ordinary computer machines as well.

With the foregoing in view, an object of the present invention is to provide a software execution judging function equipped computer apparatus that only enables the execution of software that is appropriate for a user.

DISCLOSURE OF THE INVENTION

According to the present invention, a computer apparatus comprises setting memorizing means for memorizing an information setting relating to a criterion for judging propriety of software execution; software execution judging means for judging whether or not software may be executed

based on the information setting memorized in the setting memorizing means; and software executing means for executing the software only when the software execution judging means judges that the software may be executed.

In a preferred embodiment, the information setting includes a user-specific information setting which is set individually for each user, so that the judgment results from the software execution judging means can differ depending on individual users even when the individual users try to execute the same software under the same conditions.

In a preferred embodiment, the information setting includes an age-related information setting relating to the age of a user (for example, date of birth, an offset value depending on mental, etc.), so that, when the user tries to execute age-restricted software, the software execution judging means judges that the age-restricted software may be executed in a case that the age of the user is not subject to execution restriction based on the age-related information setting.

In a preferred embodiment, the information setting includes an execution time-related information setting for restricting execution time (for example, an execution prohibited time period, a restriction value for cumulative execution time in one day, a restriction value for

continuous execution time, etc.), so that, when a user tries to execute software, the software execution judging means judges that said software may be executed in a case that the current temporal condition (for example, the current time, one day cumulative execution time up until the present, and continuous execution time up until the present, etc.) is not subject to execution restriction based on the execution time-related information setting.

In a preferred embodiment, the software execution judging means does not simply judge the propriety of software execution alone, but rather also judges whether or not the software may be executed with a certain restriction. And when it is judged that the execution is allowed with the certain restriction, the computer apparatus executes the software in concord with the certain restriction (for example, it executes the software by imposing a restriction on execution time, or executes one version of the software that is congruous with the age of the user, etc.).

In a preferred embodiment, a computer apparatus has a software execution criteria device, which is either freely attachable and detachable, or freely communicably connectable and disconnectable, and the above-mentioned information setting is stored in the software execution criteria device. With the exception of software that can be

executed completely without any restriction, software cannot be executed unless the software execution criteria device is mounted to or communicably connected to the computer apparatus. Or, the preferred embodiment can also be constituted such that a software execution criteria device must be mounted to execute all software.

The software execution criteria device can also be used to prevent the copying of software. For example, a software execution criteria device, which must always be mounted or connected to the computer apparatus when executing the software, is provided only to a person, who has permission to use the software, so that the other people, who do not have this software execution criteria device, cannot execute the software thereof.

A computer program product according to the present invention has a computer program of carrying out on a computer a software execution control method comprising a step for accessing an information setting which has been previously set and relates to a criterion for judging propriety of software execution; a step for judging whether or not software may be executed based on the information setting; and a step for executing the software only when it is judged that the software may be executed.

In a preferred embodiment, the above-mentioned information setting includes an a user-specific information setting which is set individually for each user, so that the judgment results from said step of judging can differ depending on individual users even when the individual users try to execute the same software under the same conditions.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a flowchart showing the flow of game software execution-judging processing that a conventional game machine performs;

Fig. 2 is an oblique view showing the outside of a software execution judging function equipped game machine related to an embodiment of the present invention;

Fig. 3 is a flowchart showing the flow of processing of a software execution judging function equipped game machine in an embodiment of the present invention;

Fig. 4 is a flowchart showing the flow of processing of a case in which a game software is executed with a condition attached in Step S26 of Fig. 3; and

Fig. 5 is a block diagram showing an example of a method for installing in an ordinary computer a software execution restriction program related to the present invention.

BEST MODE FOR CARRYING OUT THE INVENTION

An embodiment of the present invention will be explained in detail hereinbelow by using the figures. Furthermore, this embodiment is targeted at a game machine for executing game software, but this is only one typical example, and the present invention can also be widely applied to computers that execute all sorts of software.

Fig. 2 is an oblique view showing the outside of a software execution judging function equipped game machine related to an embodiment of the present invention. As shown in this figure, a game machine 1 has a storage device drive, for example a CD-ROM drive 3, for loading from an external storage device game software, and game software is read in from a game CD-ROM mounted in this drive 3. Naturally, the constitution can also be such that game software is loaded into the game machine 1 from a storage device of a type other than a CD-ROM, or from a communications network. Further, a software execution criteria device 5 can be mounted or connected to this game machine 1. In this embodiment, a software execution criteria device 5 comprises a nonvolatile read-write semiconductor memory and an interface for the game machine 1, and various information settings for software execution judgment are stored in the semiconductor memory. As a mounting or connecting method of

the software execution criteria device 5 to the game machine 1, there are methods such as (a) mating the software execution criteria device 5 to a connection terminal provided on the game machine 1, (b) connecting the two using a communications cable, and (c) making a connection between the two by way of a radio channel like a remote control signal, and so on.

When the game machine 1 attempts to execute certain game software, the game machine 1 determines whether or not a software execution criteria device 5 is mounted/connected, and when it is mounted/connected, then decides whether or not to execute the game software based on information settings stored in the software execution criteria device 5. Control of the this game execution decision, and the start of the game software is performed by firmware like either an OS or BIOS, which is stored in ROM built into the game machine 1 main unit.

The information settings stored in the software execution criteria device 5 are settings of information such as (1)-(6) below. These information settings can be changed under certain limitations.

(1) Current date and time. That is an absolute time indicating a date and time of the present time point, which cannot be changed by a user (It does not matter whether this

function is in a format that is built into the software execution criteria device 5, or a format in which the game machine 1 performs the calculations, and the software execution criteria device 5 is aware of same at all times.)). The current date and time setting is used, for example, to determine the age of a user from the current date and time, and the user's date of birth in order to start game software with an age restriction attached.

- (2) Date of birth of a user using game software.
- (3) Daily time restriction for using game software.
- (4) Time restriction on continuous use of game software.
- (5) Time period during which game software use is prohibited.

(6) Emotional maturity of a user using game software. This is a numerical value which is set in a case in which a user's mental age has not caught up with his actual age, and is an offset value for raising the target age of a game software by the amount of the age that has been set. For example, in the case of a person, who, although his actual age is 20, has been determined to be four years younger in terms of mental and emotional maturity, this number will be set at 4. By so doing, this person will not be able to play games classified as being for users 18 years old and over until he turns 22. However, this setting is constituted

such that setting a minus value, for example, setting a -2, will not enable a setting by which a 16-year-old person can play a game classified as being for users 18 years old and over. Therefore, this setting is constituted such that only a plus figure can be set. A function like this makes it possible to deal with a person, who cannot be classified simply by age.

The above-mentioned information settings can be changed by the conditions cited below.

That is, the information settings of (1)-(6) can be arbitrarily changed by the seller of a software execution criteria device 5.

The information setting of (2) can be set only one time by the purchaser of a software execution criteria device 5.

The information settings of (3)-(6) can be arbitrarily changed by the purchaser of a software execution criteria device 5.

The information settings of (1)-(6) can be arbitrarily referenced by a game machine 1 and a game software (that is, by a game machine 1 in accordance with instructions of a game software), but a game software cannot change the information settings of (2)-(6) without the permission of the purchaser of a software execution criteria device 5.

A purchaser of the software execution criteria device 5 can change the information settings of (2)-(6), by using the game machine 1 and a certain program having a change function. Further, this program can be constituted such that the purchaser of the software execution criteria device 5 can control this program via a game software.

Fig. 3 shows the flow of processing when the game machine 1 starts game software.

First, when a CD-ROM of certain game software is inserted into the game machine 1 (S11), the game machine 1 starts IPL and accesses the game software (S12), and a determination is made as to whether or not this game software corresponds to the game machine 1 (S13). At this point, if the game software does not correspond to the game machine 1 (S13, N), processing for stopping the execution of the game software is performed just like with prior art (S14), and the game software is not started (S15).

Conversely, in Step S13, if the game software does correspond to the game machine 1 (S13, Y), then a decision is made as to whether or not the software execution criteria device 5 is necessary to execute this game software (S16). At this point, if it is a game software, which can be unconditionally executed without the need for the software

execution criteria device 5 (S16, N), execution of this game software commences immediately (S24).

Further, in Step S16, in the case that the game software needs the software execution criteria device 5 (S16, Y), the game machine 1 tries to access the software execution criteria device 5 (S17). At this point, a decision is made as to whether or not the software execution criteria device 5 is mounted/connected to the game machine 1 (S18), and if the software execution criteria device 5 is not mounted/connected to the game machine 1 (S18, N), processing for stopping the execution of this game software is performed (S19), and this game software is not started (S20).

Conversely, in Step S18, if the software execution criteria device 5 is mounted/connected to the game machine 1 (S18, Y), the game machine 1 acquires information settings from the software execution criteria device 5. That is, the game machine 1 acquires the information such as the above-mentioned (1) current date and time, (2) user date of birth, (3) time restriction on game software use, (4) time restriction on continuous use of game software, (5) time period during which game software use is prohibited, and (6) emotional maturity of user, is obtained (S21).

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Then, the game machine 1 makes decisions as to whether or not playing the game software can be approved based on the above-mentioned (1)-(6) information settings for each individual user stored in the software execution criteria device 5 (S22). For example, the game machine 1 carries out a comparison of the age of a user calculated from data acquired from the software execution criteria device 5, against the game target age programmed in the game software (or set in a game software CD-ROM, or cassette by a mechanical or electromagnetic method), a comparison of a set date/time that a game is prohibited against the current date/time the user is attempting to play the game, and a comparison of a set time restriction on play against continuous play time up until the present, and so on.

Then, the game machine 1 makes a judgment as to whether or not it would be a problem to simply execute the game software based on the results of the above-mentioned decision processing using the information settings (S23), and if executing the game software does not pose a problem (S23, Y), then execution of the game software commences, or, when its execution is in progress, the execution continues (S24).

In Step S23, if there is a problem with simply executing of the game software (S23, N), then a judgment is

made as to whether or not the game software may be executed with certain restrictions (S25). If, as a result the judgment, the game software may be executed with the certain restrictions (S25, Y), this game software is executed in concord with the restrictions (S26).

The restricted execution of game software here refers to executing a game software by setting either 1 or all of the restrictions (1)-(3) cited hereinbelow.

(1) Notice a warning by displaying a warning message on the screen or outputting a voice or the like.

(2) Set a time restriction on game software operation.

(3) Execute a separate version of the game software, in which the portion of the game software that is a problem has been changed. The change can either be done partially, or the entire contents of a game can be changed.

Furthermore, restricted execution processing of the game software with certain restrictions will be explained in detail hereinbelow using the flowchart shown in Fig. 4.

Meanwhile, in Step S25, if it is not possible to execute a game software even when a certain restriction is imposed (S25, N), this game software is not started, or when its execution is in progress, the execution is ended (S28).

Next, the flow of processing of the case of the above-mentioned Step S26, in which the game software is executed

with a certain restriction will be explained by referring to the flowchart of Fig. 4.

As shown in Fig. 4, when restricted game execution processing commences (S31), firstly, a determination is made as to whether or not it is a time period in which a game software may be executed (S32). If the present time falls within a use prohibited time period obtained from the software execution criteria device 5 (S32, N), processing for stopping the execution of this game software is performed (S33), and the game software is not started (S34).

In Step S32, if there is no problem with the time period at which the game software is executed (S32, Y), then a determination is made as to whether or not the cumulative value of that day's game execution time up until the present is within the time restriction for that day obtained from the software execution criteria device 5 (S35), and if the time restriction for that day has been exceeded (S35, N), processing for stopping the execution of this game software is performed (S33), and the game software is not started (S34).

In Step S35, if the cumulative execution time of the game software has still not exceeded the time restriction for that day (S35, Y), next, a determination is made as to whether or not there is a problem regarding the target age

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of this game software (S36), and if there is a target age problem (S36, Y), a determination is made as to whether or not a separate version of the game program for which the contents have been changed is contained in the game software (S37), and if a separate version, that takes an age restriction into consideration, is not contained in the game software (S37, N), processing for stopping the execution of this game software is performed (S33), and the game software is not started (S34).

Further, in Step S37, if a separate version, that takes an age restriction into consideration, is contained in the game software (S37, Y), a judgment is made as to whether or not it is necessary to display a warning statement on the screen (S38). Conversely, in Step S36, in a case in which the age restriction of the game software does not pose a problem (S36, N), a judgment is also made as to whether or not it is necessary to display a warning statement on the screen (S38).

In Step S38, when it is necessary to display a warning statement (S38, Y), a warning statement is being displayed on the screen (S39), and the normal version or the separate version of the game software is executed (S40). Furthermore, when it is not necessary to display a warning statement in Step S38 (S38, N), the normal version or the separate

version of the game software is executed as-is without a warning statement being displayed (S40).

Furthermore, while a game software is in the process of being executed, the above determinations are made at all times as to whether or not there is a problem regarding the execution time period, and the time restriction for that day (S41), and if there is no problem (S41, Y), the execution of the game software continues as-is (S42). In Step S41, if a problem occurs regarding the execution time period, and the time restriction for that day (S41, N), this game software is stopped, and the game is ended (S43).

According to the above processing, it becomes possible to carry out software execution restrictions surely and easily, and a purchaser can buy and play a game machine and game software free from concern.

The aspect of the embodiment described hereinabove is one example for explaining the present invention, but the present invention is not limited to the above-mentioned aspect of the embodiment, and a variety of modifications are possible in the scope of the gist of the invention. For example, the above-mentioned aspect of the embodiment was explained with regard to a case in which various restrictions are put into effect for ethical and health reasons when a game software is run on a television game

machine, but the present invention is not limited to a television game machine, and the same software execution judging function can also be provided in a personal computer or other ordinary computer, and can be utilized such that a software program cannot be executed for a long period of time for health reasons, and/or games and other non-work-related software cannot be executed during working hours at a company or the like.

Further, in the above-mentioned aspect of the embodiment, an explanation was given with regard to a case in which a game machine is provided with a function for judging propriety of executing software by using information settings stored in a software execution criteria device, but a computer apparatus can also be provided with an intelligent function for carrying out execution judging processing by mounting not only memory, but also a CPU in a software execution criteria device. Furthermore, in this specification, a software execution criteria device is provided with a plurality of functions, and can be used in multiple applications, but, needless to say, a software execution criteria device can be limited to a uniform utilization method by limiting functionality to, say, only a function that executes an age restriction.

Further, with regard to a function for carrying out an age restriction judgment, which is one of the primary aims of this proposal, it is desirable that the same function be afforded top priority.

Furthermore, as for the structural constitution, a software execution criteria device can be built into a home television game machine, or a home television game machine can be provided with the same functions as a software execution criteria device.

In addition, since a game software can reference the information settings of a software execution criteria device, stage effect can be used as information, enabling a game to be made even more enjoyable.

Furthermore, as shown in Fig. 5, for an ordinary computer like a personal computer 51, and for various game machines (not shown in the figure), a software execution restricting program 59 for performing processing like that explained hereinabove can be installed by way of a floppy disk 53, a CD-ROM 55, or a communications network 57 such as the Internet, and execution of the above-mentioned software can be controlled by this program 59.

CLAIMS

1. A computer apparatus having a software execution judging function to judge whether or not software may be executed, comprising:

setting memorizing means for memorizing an information setting relating to a criterion for judging propriety of software execution;

software execution judging means for judging whether or not software may be executed based on said information setting memorized in said setting memorizing means; and

software executing means for executing said software only when said software execution judging means judges that said software may be executed.

2. The computer apparatus according to claim 1, wherein said information setting includes a user-specific information setting which is set individually for each user, so that the judgment results from said software execution judging means can differ depending on individual users even when the individual users try to execute the same software under the same conditions.

3. The computer apparatus according to claim 1, wherein said information setting includes an age-related information setting relating to the age of a user, so that,

when the user tries to execute age-restricted software, said software execution judging means judges that said age-restricted software may be executed in a case that the age of the user is not subject to execution restriction based on said age-related information setting.

4. The computer apparatus according to claim 1, wherein said information setting includes an execution time-related information setting for restricting execution time, so that, when a user tries to execute software, said software execution judging means judges that said software may be executed in a case that the current temporal condition is not subject to execution restriction based on said execution time-related information setting.

5. The computer apparatus according to claim 1, wherein said software execution judging means judges if said software may be executed without restriction, or may be executed with a certain restriction, or may not be executed; and wherein, when said software execution judging means judges that said software may be executed with the certain restriction, said software execution means executes said software in concord with the certain restriction.

6. The computer apparatus according to claim 1, further comprising a software execution criteria device which is removably mounted to or disconnectably communicably

connected to said computer apparatus, wherein said setting memorizing means is incorporated in said software execution criteria device.

7. The computer apparatus according to claim 6, wherein said software execution judging means judges whether or not software may be executed based also on whether or not said software execution criteria device is mounted to or connected to said computer apparatus.

8. A method for controlling the execution of software in a computer apparatus, comprising the steps of:

accessing an information setting which relates to a criterion for judging propriety of software execution;

judging whether software may be executed based on said information setting; and

executing said software only when it is judged that the software may be executed.

9. The software execution control method according to claim 8, wherein said information setting includes a user-specific information setting which is set individually for each user, so that the judgment results from said step of judging can differ depending on individual users even when the individual users try to execute the same software under the same conditions.

10. A software execution criteria device which is removably mounted to or disconnectably communicably connected to a computer apparatus, comprising:

setting memorizing means for memorizing an information setting which has been previously set and relates to a criterion for judging propriety of software execution by said computer apparatus; and

means for providing said information setting or software execution control based on said information setting to said computer apparatus, when mounted or connected to said computer apparatus.

11. The software execution criteria device according to claim 10, wherein said information setting includes a user-specific information setting which is set individually for each user, so that the judgment results as to whether or not software may be executed can differ depending on individual users even when the individual users try to execute the same software under the same conditions.

12. A computer program product, having a computer program for carrying out a software execution control method in a computer apparatus, said software execution control method comprising the steps of:

accessing an information setting which has been previously set and relates to a criterion for judging propriety of software execution;

judging whether or not software may be executed based on said information setting; and

executing said software only when it is judged that said software may be executed.

13. A computer program product according to claim 12, wherein said information setting includes a user-specific information setting which is set individually for each user, so that the judgment results from said step of judging can differ depending on individual users even when the individual users try to execute the same software under the same conditions.

FIG. 1

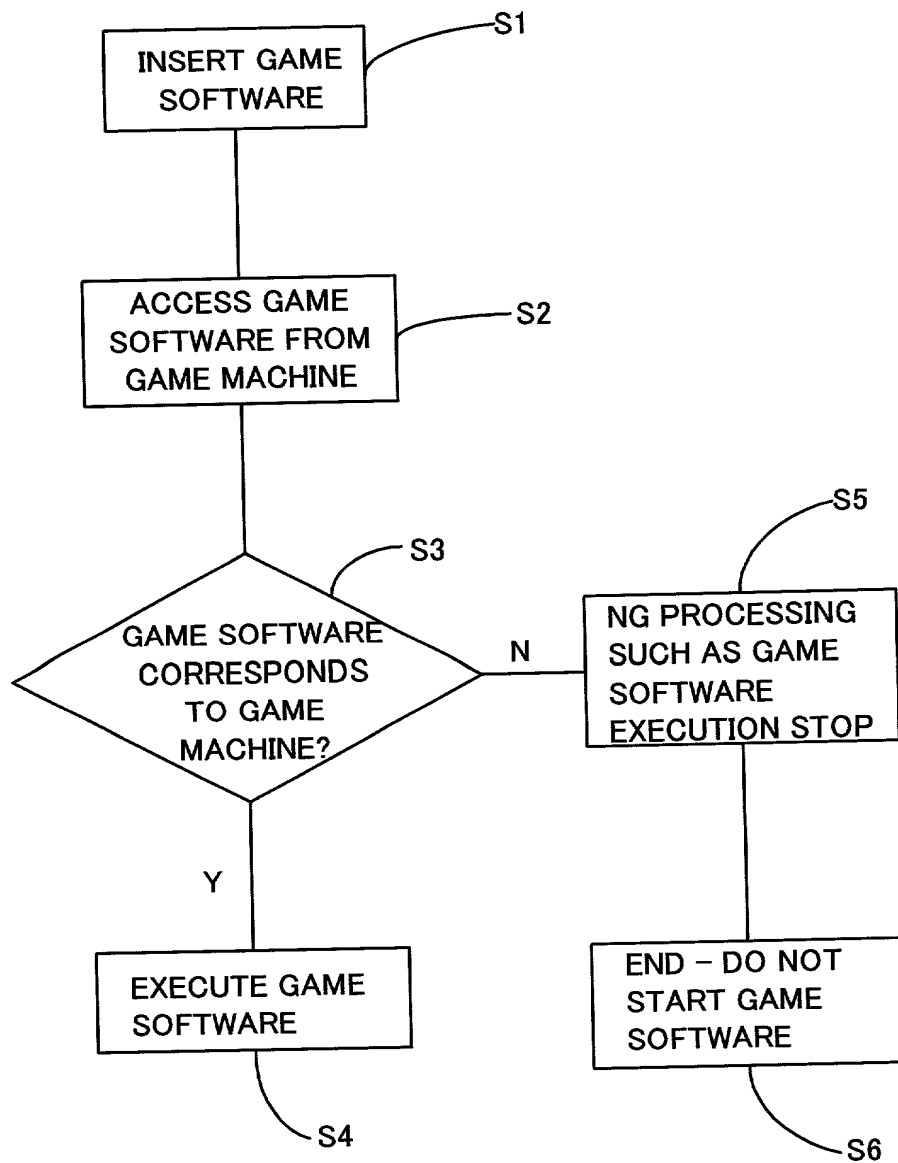


FIG.2

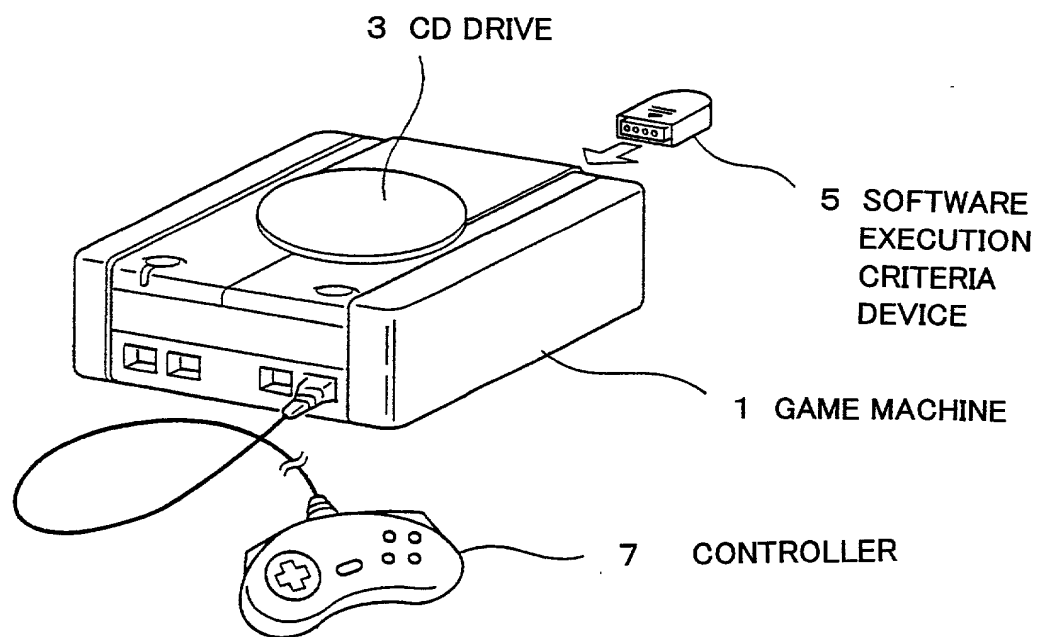


FIG.3

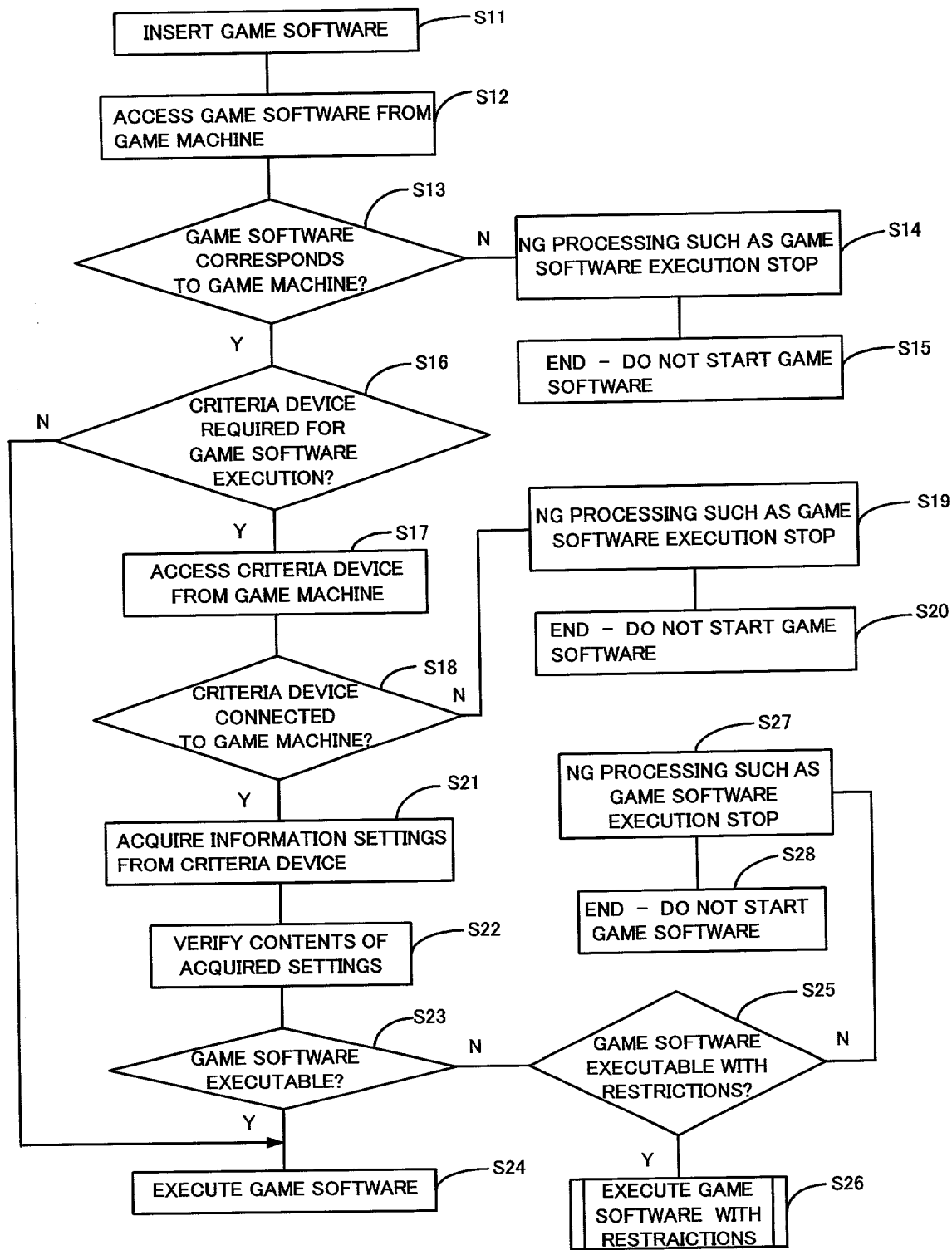


FIG. 4

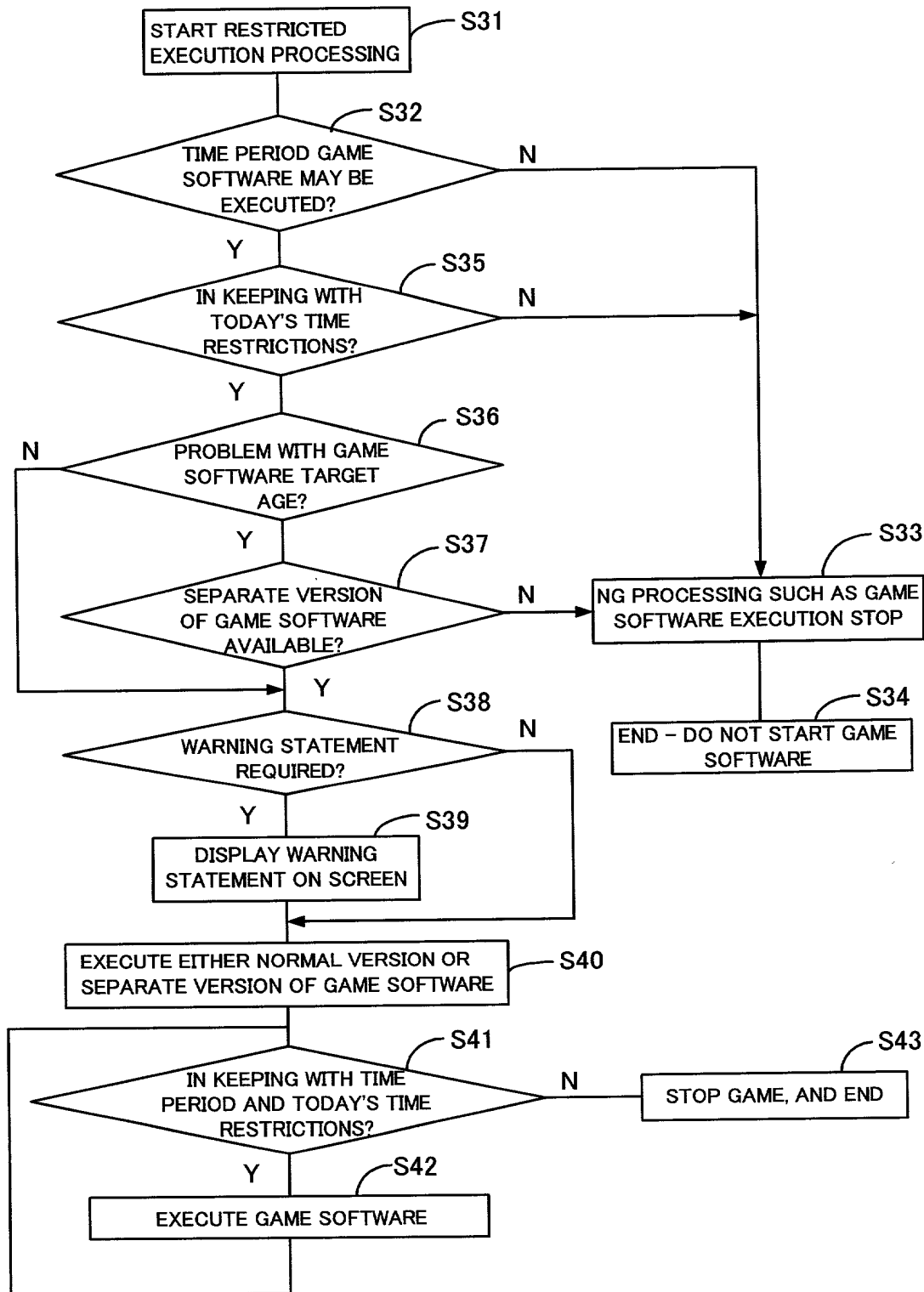
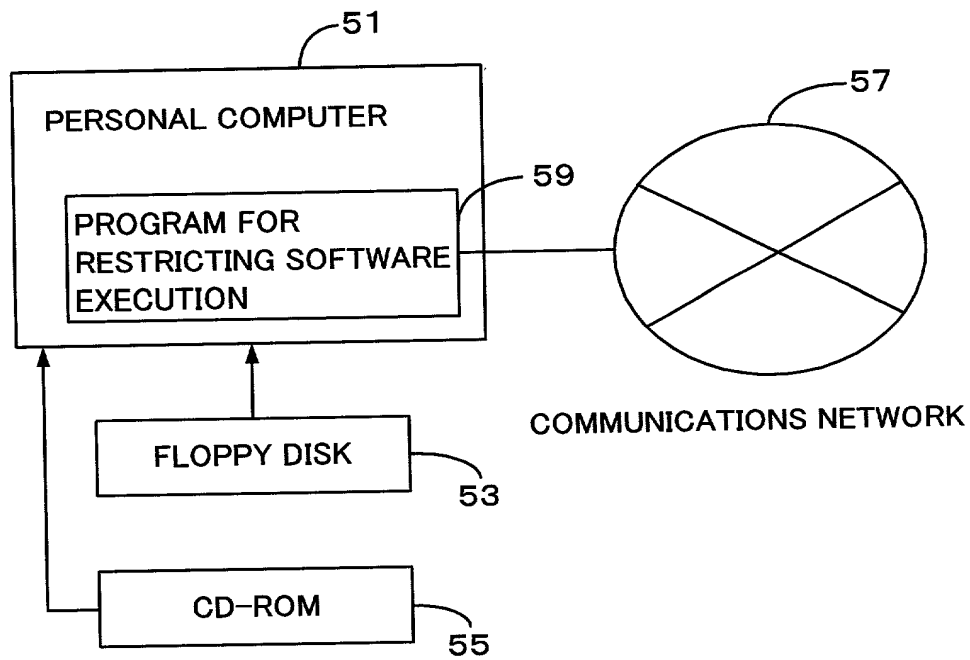


FIG.5



Declaration and Power of Attorney for U.S. Patent Application

特許出願宣言書及び委任状

Japanese Language Declaration

日本語宣言書

下記の氏名の発明者として、私は以下の通り宣言します。

As a below named inventor, I hereby declare that:

私の住所、私書箱、国籍は下記の私の氏名の後に記載された通りです。

My residence, post office address and citizenship are as stated next to my name.

下記の名称の発明に関して請求範囲に記載され、特許出願している発明内容について、私が最初かつ唯一の発明者（下記の氏名が一つの場合）もしくは最初かつ共同発明者であると（下記の名称が複数の場合）信じています。

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

COMPUTER APPARATUS WITH
SOFTWARE EXECUTION JUDGING FUNCTION,
SOFTWARE EXECUTION CONTROL METHOD,
SOFTWARE EXECUTION JUDGING DEVICE,
AND COMPUTER PROGRAM PRODUCT

上記発明の明細書（下記の欄でx印がついていない場合は、本表に添付）は、

the specification of which is attached hereto unless the following box is checked:

☐ 月 日に提出され、米国出願番号または特許協定条約国際出願番号を _____ とし、
（該当する場合） _____ に訂正されました。☐ was filed on March 14, 2000
as United States Application Number or
PCT International Application Number
PCT/JP00/01538 and was amended on _____
(if applicable).

私は、特許請求範囲を含む上記訂正後の明細書を検討し、内容を理解していることをここに表明します。

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

私は、連邦規則法典第37編第1条56項に定義されたとおり、特許資格の有無について重要な情報を開示する義務があることを認めます。

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

Japanese Language Declaration (日本語宣言書)

私は、米国法典第35編119条(a)-(d)項又は365条(b)項に基づき下記の、米国外の国の少なくとも一カ国を指定している特許協力条約365(a)項に基づく国際出願、又は外国での特許出願もしくは発明者証の出願についての外国優先権をここに主張するとともに、優先権を主張している、本出願の前に出願された特許または発明者証の外国出願を以下に、枠内をマークすることで、示しています。

Prior Foreign Application(s)

外国での先行出願

11-160830

(Number)
(番号)

Japan

(Country)
(国名)

(Number)
(番号)

(Country)
(国名)

私と、第35編米国法典119条(e)項に基づいて下記の米国外の特許出願規定に記載された権利をここに主張いたします。

(Application No.)
(出願番号)

(Filing Date)
(出願日)

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(Application No.)
(出願番号)

(Filing Date)
(出願日)

(Application No.)
(出願番号)

(Filing Date)
(出願日)

私は、私自身の知識に基づいて本宣言書中で私が行なう表明が真実であり、かつ私の入手した情報と私の信じていることに基づいて表明が全て真実であると信じていること、さらに故意になされた虚偽の表明及びそれと同等の行為は米国法典第18編第1001条に基づき、罰金または拘禁、もしくはその両方により処罰されること、そしてそのような故意による虚偽の表明を行えば、出願した、又は既に許可された特許の有効性が失われることを認識し、よってここに上記のごとく宣誓を致します。

I hereby claim foreign priority under Title 35, United States Code, Section 119 (a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed.

Priority Not Claimed

優先権主張なし

08/June/1999

(Day/Month/Year Filed)
(出願年月日)

(Day/Month/Year Filed)
(出願年月日)

I hereby claim the benefit under Title 35, United States Code, Section 119(e) of any United States provisional application(s) listed below.

(Application No.)
(出願番号)

(Filing Date)
(出願日)

I hereby claim the benefit under Title 35, United States Code, Section 120 of any United States application(s), or 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code Section 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of application.

(Status: Patented, Pending, Abandoned)
(現況: 特許許可済、係属中、放棄済)

(Status: Patented, Pending, Abandoned)
(現況: 特許許可済、係属中、放棄済)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Japanese Language Declaration
(日本語宣言書)

委任状: 私は下記の発明者として、本出願に関する一切の手続きを米特許商標局に対して遂行する弁理士または代理人として、下記の者を指名いたします。(弁理士、または代理人の氏名及び登録番号を明記のこと)

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith (*list name and registration number*)

See list of attorneys and/or agents on page 5.

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国籍	Citizenship	
私書箱	Post Office Address	

(第三以降の共同発明者についても同様に記載し、署名をすること)

(Supply similar information and signature for third and subsequent joint inventors.)

第三共同発明者		Full name of third joint inventor, if any	
第三発明者の署名	日付	Third inventor's signature	Date
住所		Residence	
国籍		Citizenship	
私書箱		Post Office Address	
第四共同発明者		Full name of fourth joint inventor, if any	
第四発明者の署名	日付	Fourth inventor's signature	Date
住所		Residence	
国籍		Citizenship	
私書箱		Post Office Address	
第五共同発明者		Full name of fifth joint inventor, if any	
第五発明者の署名	日付	Fifth inventor's signature	Date
住所		Residence	
国籍		Citizenship	
私書箱		Post Office Address	
第六共同発明者		Full name of sixth joint inventor, if any	
第六発明者の署名	日付	Sixth inventor's signature	Date
住所		Residence	
国籍		Citizenship	
私書箱		Post Office Address	

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